

## CLAIMS

What is claimed is:

1. A method of playing a parimutuel betting game between a plurality of players, said parimutuel betting game based on events unfolding during a live sporting event, a principal objective of the game being to acquire the largest number of betting tokens by the end of the sporting event, wherein the players are in direct competition because payoffs are parimutuel style, comprising:
- allocating betting tokens to each of the players prior to commencement of said sporting event;
  - conducting a plurality of betting events, each said betting event based on a bettable event occurring during said sporting event, each said step of conducting a betting event comprising:
    - selecting a betting event from said bettable events;
    - administering at least one betting line for said betting event, each said step of administering a betting line comprising:
      - opening a betting line for said betting event, said betting line based on a finite set of possible outcomes of said betting event;
      - allowing the players an amount of time within which to selectively bet tokens on said possible outcomes of said betting event;
      - freezing tokens bet on said open line such that said frozen tokens are not available for further betting until a payoff has been made on said betting event;
      - closing said betting line after a selected interval such that no further tokens may be bet on said line;
    - monitoring said sporting event until a termination event occurs with regard to said betting event;

terminating said betting event upon occurrence of said termination event for said betting event;

upon termination of said betting event, paying off winners of each said betting line in said betting event in parimutuel style; and

5 repeating said process of selectively conducting betting events until the sporting event has concluded.

2. The method of claim 1, further comprising allocating bonus tokens to each said open betting line to thereby encourage the players to bet on said open line, said bonus tokens being paid to winners of said betting line in parimutuel style.

3. The method of claim 1, wherein for each said betting event, only one betting line is open at any given time, to thereby encourage the players to bet on a given betting line before said betting line closes.

4. The method of claim 3, wherein a new betting line is opened substantially whenever a prior betting line closes, to thereby constantly challenge the players to evaluate an open betting line within  
15 said betting event.

5. The method of claim 1, wherein each of the players can place multiple bets on any open betting line.

6. The method of claim 1, further comprising allocating additional tokens to each of the players at selected intervals during the game.

20 7. The method of claim 6, wherein each of the players receive an equal amount of said additional tokens.

8. The method of claim 1, wherein at least one of said betting events has a hierarchal parimutuel style payoff tree structure, said hierarchical parimutuel style payoff tree structure comprising:

said hierarchical betting event having at least two primary outcomes,

at least one of said primary outcomes in said hierarchical betting event having at least two secondary outcomes, such that whenever one of said secondary outcomes is a winning bet, one of said primary outcomes is also a winning bet, and

wherein winning bets placed on said secondary outcomes receive a higher parimutuel style payoff than winning bets placed on said primary outcomes.

9. The method of claim 8, wherein at least one of said secondary outcomes in said hierarchical betting event has at least two tertiary outcomes, such that whenever one of said tertiary outcomes is a winning bet, one of said secondary outcomes and one of said primary outcomes are also a winning bet, and

wherein winning bets placed on said tertiary outcomes receive a higher parimutuel style payoff than winning bets placed on said secondary outcomes.

10. The method of claim 9, wherein at least one of said tertiary outcomes in said hierarchical betting event has at least two quaternary outcomes, such that whenever one of said quaternary outcomes is a winning bet, one of said tertiary outcomes, one of said secondary outcomes, and one of said primary outcomes are also a winning bet, and

wherein winning bets placed on said quaternary outcomes receive a higher parimutuel style payoff than winning bets placed on said tertiary outcomes.

11. The method of claim 8, wherein each said hierarchical payoff in said hierarchical betting event is  $share(n, \ell_m)$  determined through step-wise application of a recursive algorithm to said hierarchical payoff tree structure, said recursive algorithm being

$$share(n, \ell_k) = [share(n, \ell_{k-1}) [subbets(\ell_k) + Bonus(\ell_k)]] \div [bets(\ell_{k-1}) + subbets(\ell_{k-1}) + Bonus(\ell_{k-1})] + wager(n, \ell_k)$$

wherein

$\ell_k$  is the outcome whose sub-outcome is  $\ell_{k-1}$ ,

$k$  takes values  $1, 2, 3 \dots m$ ,

$m$  is the number of branches outcome  $\ell_0$  is from a base of said hierarchical payoff tree structure,

$\ell_0$  is the winning outcome that is a leaf of said hierarchical payoff tree structure,

$n$  = player placing bet,

$subbets(\ell_k)$  = total number of tokens bet on subtrees of  $\ell_k$ ,

$bets(\ell_k)$  = total tokens bet on  $\ell_k$  itself,

$wager(n, \ell_k)$  = total tokens bet on  $\ell_k$  by player  $n$ ,

$share(n, \ell_0) = wager(n, \ell_0)$ , and

$Bonus(\ell) = bonus(\ell)$  if  $subbet(\ell) > 0$ , and 0 if  $subbet(\ell) = 0$ .

12. The method of claim 1, further comprising a means for determining payoffs for hierarchical choice sets that retains the flavor of a parimutuel style.

13. The method of claim 1, wherein said sporting event is selected from the group consisting of football, baseball, tennis, soccer, basketball, hockey, and horse racing.

14. The method of claim 1, wherein said selected sporting event is a football game, and wherein said betting events are selected from the group consisting of outcome of drive, next score, number of touchdowns in current quarter, and winner of game.

15. The method of claim 1, wherein said selected sporting event is a baseball game, and wherein said betting events are selected from the group consisting of batter's turn at bat, inning, winner, next score, winning pitcher, losing pitcher, winning margin, and number of home runs.

16 The method of claim 1, wherein said selected sport is tennis, and wherein said betting events are selected from the group consisting of winner of game, winner of set, and winner of match.

17 The method of claim 1, wherein said selected sporting event is basketball, and wherein said betting events are selected from the group consisting of next score; lead change; quarter scoring; high scorer; high rebounder; next foul; point spread, and over-under.

18 The method of claim 1, wherein said selected sporting event is a race, wherein said betting events are win, place, and show, said betting choices for each said betting event being the participants entered in said race;

opening a conventional betting line in said win, place, and show betting events prior to a start of the race and closing said conventional line when said race begins;

opening a series of unconventional betting lines in said win, place, and show betting events one at a time during said race such that only one betting line is open at any given time during said race, and

terminating said conventional and unconventional lines at an end of said race.

19 The method of claim 18, wherein said bonuses for said lines decrease in value as said race progresses, such that players who bet correctly early in said race have an advantage over players who bet correctly later in said race.

20 The method of claim 1, wherein the players pay money to a gambling establishment in exchange for said allocation of tokens.

21 The method of claim 20, wherein said gambling establishment retains a percentage of tokens bet on said betting lines.

22 A computerized method of playing a parimutuel betting game between a plurality of players, said parimutuel betting game based on events unfolding during a live sporting event, a principal

objective of the game being to acquire the largest number of betting tokens by the end of the sporting event, wherein the players are in direct competition with each other because each player's winnings come from other players' losses, the game being administered by an administrator, comprising:

providing a host processor, said host processor programmed for analyzing and processing input data and outputting data and information relevant to the parimutuel betting game;

interactively connecting a plurality of player processors to said host processor, said player processors programmed for playing the parimutuel betting game, each said player processor having a display means operatively associated therewith for displaying data received from said host processor and for entering data and sending data to said host processor;

interactively connecting an administrative processor to said player processors via said host processor, said administrative processor programmed for administering the parimutuel betting game, said administrative processor having a display means operatively associated therewith for displaying data received from said host processor and for entering data and sending data to said host processor;

displaying an administrator browser page on said display means of said administrative processor;

displaying a player browser page on said display means of each said player processor; using said processors to allocate betting tokens to each of the players prior to commencement of said sporting event;

the administrator monitoring said sporting event for situations giving rise to bettable events;

the players and the administrator using said browser pages and said processors to conduct a plurality of betting events, each said betting event based on a bettable event occurring during said sporting event, each said step of conducting a betting event comprising:

the administrator selecting a betting event from said bettable events;

administering at least one betting line for said betting event, each said step of administering  
a betting line comprising:

the administrator using said administrative browser page to open a betting line for  
said betting event, said betting line based on a finite set of possible outcomes  
of said betting event;

upon the administrator opening a new betting line, said administrative processor  
sending a betting line identifier and a bonus amount for said new line to said  
host processor;

upon receiving said betting line identifier for said new line, said host processor  
opening a new betting line;

displaying betting event information for said open betting line on said display means  
of said player processors,

allowing the players an amount of time within which to use said player browser  
pages to selectively bet tokens on said possible outcomes of said betting  
event;

for each bet placed by a player on a betting line, sending data concerning said bet to  
said host computer for processing, said data including a player identification,  
a betting line identification, a betting choice identification, and an amount  
bet;

freezing tokens bet on said open betting line such that said frozen tokens are not  
available for further betting until a payoff has been made on said betting  
event;

displaying updated betting event information for each said betting line on said player  
 browser pages;  
 the administrator closing said betting line after a selected interval such that no further  
 tokens may be bet on said line;  
 5 upon the administrator closing said new line, said administrative processor sending  
 said line identifier for said new line to said host processor;  
 upon receiving said betting line identifier, said host closing said new betting line  
 such that no further bets can be placed on said line;  
 the administrator monitoring said sporting event until a termination event occurs with regard  
 to said betting event;  
 terminating said betting event upon occurrence of said termination event for said betting  
 event;  
 upon the administrator terminating said betting event for said new line, said administrative  
 processor sending said line identifier and a winning choice identification to said host  
 5 processor for calculating said parimutuel payoff on said new line;  
 upon termination of each said betting event, paying off winners of each said betting line in  
 said betting event in parimutuel style, said payoffs being determined and processed by said host  
 processor;  
 performing updates on a periodic basis wherein said host processor sends data to all the  
 20 player processors and said administrative processor reflecting changes to said browser pages; and  
 repeating said process of selectively conducting betting events until the sporting event has  
 concluded.



23. The method of claim 22, further comprising, prior to a start of said game, said administrator selecting possible betting events to be used during the game, and

said administrator selecting bonus amounts to be awarded for each betting line in a given betting event.

24. The method of claim 22, wherein said displayed betting event information for each said betting line is selected from the group consisting of: betting line identification, bonus amount, betting choices in said line, total tokens bet on each betting choice in said line, number of tokens the player using said player processor has bet on each betting choice in said line, payoff odds, and status of betting line.

25. The method of claim 22, wherein said open and close functions are combined into a new line function, such that selecting said new line function closes said open line and opens a new line.

26. The method of claim 22, wherein a subset of the players may elect to play the parimutuel betting game in a private group consisting only of said subset of players, said private group being administered by the administrator.

27. The method of claim 26, wherein said private group selectively customizes a set of house rules for said private group prior to commencement of said sporting event.

28. The method of claim 27, wherein said customized house rules for said private group are selected via a captain's browser page on one of said remote terminals, said captain's browser page containing input fields for setting up said private game for said private group, said input fields of said captain's screen including a list of the players of said private group, a list of betting events, a default bonus size for said betting lines, and an allocation of tokens to be distributed to the players at selected points in the sporting event.

29. The method of claim 22, wherein said host processor simultaneously runs a plurality of parimutuel betting games, each of the parimutuel betting games being based on a separate sporting event, and

5 further comprising, for each of the parimutuel betting games, assigning identification numbers to the administrator for and the players of the game, said processor using said identification numbers to ensure that the players are linked to the appropriate administrator of that particular game.

30. The method of claim 22, wherein said host processor, said player processor, and said administrative processor interact via the Internet.

31. The method of claim 30, wherein at least some of said player processors are connected to said host processor via a wireless Internet connection means.

32. The method of claim 22, further comprising allocating bonus tokens to each said open betting line to thereby encourage the players to bet on said open line, said bonus tokens being paid to winners of said betting line in parimutuel style such that bonus tokens on said line are allocated among said winners according to each said winner's proportion of winning bets on said line

33. The method of claim 22, wherein for each said betting event, only one betting line is open at any given time, to thereby encourage the players to bet on a given betting line before said betting line closes.

34. The method of claim 33, wherein a new betting line is opened substantially whenever a prior betting line closes, to thereby constantly challenge the players to evaluate an open betting line within

35. The method of claim 22, wherein each of the players can place multiple bets on any open betting line.

36. The method of claim 22, further comprising allocating additional tokens to each of the players at selected intervals during the game.

37. The method of claim 36, wherein each of the players receive an equal amount of said additional tokens.

38. The method of claim 22, wherein at least one of said betting events has a hierarchal parimutuel style payoff tree structure, said hierarchical parimutuel style payoff tree structure comprising:

said hierarchical betting event having at least two primary outcomes,

at least one of said primary outcomes in said hierarchical betting event having at least two secondary outcomes, such that whenever one of said secondary outcomes is a winning bet, one of said primary outcomes is also a winning bet, and

wherein winning bets placed on said secondary outcomes receive a higher parimutuel style payoff than winning bets placed on said primary outcomes.

39. The method of claim 38, wherein at least one of said secondary outcomes in said hierarchical betting event has at least two tertiary outcomes, such that whenever one of said tertiary outcomes is a winning bet, one of said secondary outcomes and one of said primary outcomes are also a winning bet, and

wherein winning bets placed on said tertiary outcomes receive a higher parimutuel style payoff than winning bets placed on said secondary outcomes.

40. The method of claim 39, wherein at least one of said tertiary outcomes in said hierarchical betting event has at least two quaternary outcomes, such that whenever one of said quaternary outcomes is a winning bet, one of said tertiary outcomes, one of said secondary outcomes, and one of said primary outcomes are also a winning bet, and

wherein winning bets placed on said quaternary outcomes receive a higher parimutuel style payoff than winning bets placed on said tertiary outcomes.

41. The method of claim 38, wherein each said hierarchical payoff in said hierarchical betting event is  $share(n, \ell_k)$  determined through step-wise application of a recursive algorithm to said hierarchical payoff tree structure, said recursive algorithm being

$$share(n, \ell_k) = [share(n, \ell_{k-1}) [subbets(\ell_k) + Bonus(\ell_k)]] \div [bets(\ell_{k-1}) + subbets(\ell_{k-1}) + Bonus(\ell_{k-1})] + wager(n, \ell_k)$$

wherein

$\ell_k$  is the outcome whose sub-outcome is  $\ell_{k-1}$ ,

$k$  takes values 1, 2, 3 . . .  $m$ ,

$m$  is the number of branches outcome  $\ell_0$  is from a base of said hierarchical payoff tree structure,

$\ell_0$  is the winning outcome that is a leaf of said hierarchical payoff tree structure,

$n$  = player placing bet,

$subbets(\ell_k)$  = total number of tokens bet on subtrees of  $\ell_k$ ,

$bets(\ell_k)$  = total tokens bet on  $\ell_k$  itself,

$wager(n, \ell_k)$  = total tokens bet on  $\ell_k$  by player  $n$ ,

$share(n, \ell_0) = wager(n, \ell_0)$ , and

$Bonus(\ell) = bonus(\ell)$  if  $subbet(\ell) > 0$ , and 0 if  $subbet(\ell) = 0$ .

42. The method of claim 22, further comprising a means for determining payoffs for hierarchical choice sets that retains the flavor of a parimutuel style.

43. The method of claim 22, wherein said sporting event is selected from the group consisting of football, baseball, tennis, soccer, basketball, hockey, and horse racing.

44. The method of claim 22, wherein said selected sporting event is a football game, and wherein said betting events are selected from the group consisting of outcome of drive, next score, number of touchdowns in current quarter, and winner of game.

45. The method of claim 22, wherein said selected sporting event is a baseball game, and wherein said betting events are selected from the group consisting of batter's turn at bat, inning, winner, next score, winning pitcher, losing pitcher, winning margin, and number of home runs.

46. The method of claim 22, wherein said selected sport is tennis, and wherein said betting events are selected from the group consisting of winner of game, winner of set, and winner of match.

47. The method of claim 22, wherein said selected sporting event is basketball, and wherein said betting events are selected from the group consisting of next score; lead change; quarter scoring; high scorer; high rebounder; next foul; point spread, and over-under.

48. The method of claim 22, wherein said selected sporting event is a race,  
wherein said betting events are win, place, and show, said betting choices for each said betting event being the participants entered in said race;

opening a conventional betting line in said win, place, and show betting events prior to a start of the race and closing said conventional line when said race begins;

opening a series of unconventional betting lines in said win, place, and show betting events one at a time during said race such that only one betting line is open at any given time during said race, and

terminating said conventional and unconventional lines at an end of said race.

49. The method of claim 48, wherein said bonuses for said lines decrease in value as said race progresses, such that players who bet correctly early in said race have an advantage over players who bet correctly later in said race.

50. The method of claim 22, wherein the players pay money to a gambling establishment in exchange for said allocation of tokens.

51. The method of claim 50, wherein said gambling establishment retains a percentage of tokens bet on said betting lines.

5 52. A system for playing a parimutuel betting game between a plurality of players, said parimutuel betting game based on events unfolding during a live sporting event, a principal objective of the game being to acquire the largest number of betting tokens by the end of the sporting event, wherein the players are in direct competition with each other because each player's winnings come from other players' losses, the game being administered by an administrator, comprising:

10 a host processor programmed for analyzing and processing input data and outputting data and information relevant to the parimutuel betting game;

a plurality of player processors interactively connected to said host processor, said player processors programmed for playing the parimutuel betting game;

15 an administrative processor interactively connected to said player processors via said host processor, said administrative processor programmed for administering the game based on input from the administrator;

a display means operatively associated with each said player processor for displaying data received from said host processor, and for entering data and sending data to said host processor;

20 a display means operatively associated with each said administrative processor for displaying data received from said host processor, and for entering data and sending data to said host processor,

said processors programmed to:

allocate betting tokens to each said player processor prior to commencement of said sporting event;

open and conduct a plurality of betting events, each said betting event based on a bettable event occurring during said sporting event, said betting events being selectable by the administrator;

open a plurality of betting lines for each said bettable events, each said betting line based on a finite set of possible outcomes of said betting event, said betting lines being selectable by the administrator;

receive and process bets of tokens placed by the players on said possible outcomes of said betting event on each betting line opened during the game;

freeze tokens bet on each said open line such that said frozen tokens are not available for further betting until a payoff has been made on said betting event;

close each said open betting line after a selected interval, said interval being selected by the administrator, such that no further tokens may be bet on said line;

terminate said betting event upon occurrence of a termination event for said betting event;

upon termination of said betting event, pay off winners of each said betting line in said betting event in parimutuel style.

53. The system of claim 52, wherein said host processor includes an interrupt processing means for processing interrupts received from said processors, said interrupts being selected from the group consisting of update, bet, open, close, and terminate.

54. The system of claim 52, further comprising

said host processor having a web server means for downloading interface screens to said player processors and said administrative processor;

said host processor having a bookkeeping means for processing all bookkeeping functions required by said host processor;

said host processor having a parimutuel betting game database means for holding login information for each of the players; and

said host processor having a real-time processing loop means for supplying socket-based real time communications between said player processors, said administrative processor, and said bookkeeping means.

55. The system of claim 52, further comprising said processors programmed to allocate bonus tokens to each said open betting line to thereby encourage the players to bet on said open line, said bonus tokens being paid to winners of said betting line in parimutuel style such that bonus tokens on said line are allocated among said winners according to each said winner's proportion of winning bets on said line.

56. The system of claim 52, further comprising said processors programmed to conduct only one open betting line at a time in each conducted betting event, to thereby encourage the players to bet on a given betting line before said betting line closes.

57. The system of claim 56, wherein a new betting line is opened substantially whenever a prior betting line closes, to thereby constantly challenge the players to evaluate an open betting line within said betting event.

58. The system of claim 52, wherein each of the players can place multiple bets on any open betting line.

59. The system of claim 52, further comprising allocating additional tokens to each of the players at selected intervals during the game.

60. The system of claim 59, wherein each of the players receive an equal amount of said additional tokens.



61. The system of claim 52, wherein at least one of said betting events has a hierarchal parimutuel style payoff tree structure, said hierarchical parimutuel style payoff tree structure comprising:

said hierarchical betting event having at least two primary outcomes,

at least one of said primary outcomes in said hierarchical betting event having at least two secondary outcomes, such that whenever one of said secondary outcomes is a winning bet, one of said primary outcomes is also a winning bet, and

wherein winning bets placed on said secondary outcomes receive a higher parimutuel style payoff than winning bets placed on said primary outcomes.

62. The system of claim 61, wherein at least one of said secondary outcomes in said hierarchical betting event has at least two tertiary outcomes, such that whenever one of said tertiary outcomes is a winning bet, one of said secondary outcomes and one of said primary outcomes are also a winning bet, and

wherein winning bets placed on said tertiary outcomes receive a higher parimutuel style payoff than winning bets placed on said secondary outcomes.

63. The system of claim 62, wherein at least one of said tertiary outcomes in said hierarchical betting event has at least two quaternary outcomes, such that whenever one of said quaternary outcomes is a winning bet, one of said tertiary outcomes, one of said secondary outcomes, and one of said primary outcomes are also a winning bet, and

wherein winning bets placed on said quaternary outcomes receive a higher parimutuel style payoff than winning bets placed on said tertiary outcomes.

64. The system of claim 61, wherein each said hierarchical payoff in said hierarchical betting event is  $share(n, \ell_m)$  determined through step-wise application of a recursive algorithm to said hierarchical payoff tree structure, said recursive algorithm being

$$share(n, \ell_k) = [share(n, \ell_{k-1}) [subbets(\ell_k) + Bonus(\ell_k)]] \div [bets(\ell_{k-1}) + subbets(\ell_{k-1}) + Bonus(\ell_{k-1})] + wager(n, \ell_k)$$

wherein

$\ell_k$  is the outcome whose sub-outcome is  $\ell_{k-1}$ ,

$k$  takes values 1, 2, 3 . . .  $m$ ,

$m$  is the number of branches outcome  $\ell_0$  is from a base of said hierarchical payoff tree structure,

$\ell_0$  is the winning outcome that is a leaf of said hierarchical payoff tree structure,

$n$  = player placing bet,

$subbets(\ell_k)$  = total number of tokens bet on subtrees of  $\ell_k$ ,

$bets(\ell_k)$  = total tokens bet on  $\ell_k$  itself,

$wager(n, \ell_k)$  = total tokens bet on  $\ell_k$  by player  $n$ ,

$share(n, \ell_0) = wager(n, \ell_0)$ , and

$Bonus(\ell) = bonus(\ell)$  if  $subbet(\ell) > 0$ , and 0 if  $subbet(\ell) = 0$ .

65. The system of claim 52, further comprising a means for determining payoffs for hierarchical choice sets that retains the flavor of a parimutuel style.

66. The system of claim 52, wherein said sporting event is selected from the group consisting of football, baseball, tennis, soccer, basketball, hockey, and horse racing.

67. The system of claim 52, wherein said selected sporting event is a football game, and wherein said betting events are selected from the group consisting of outcome of drive, next score, number of touchdowns in current quarter, and winner of game.

68. The system of claim 52, wherein said selected sporting event is a baseball game, and wherein said betting events are selected from the group consisting of batter's turn at bat, inning, winner, next score, winning pitcher, losing pitcher, winning margin, and number of home runs.

69. The system of claim 52, wherein said selected sport is tennis, and wherein said betting events are selected from the group consisting of winner of game, winner of set, and winner of match.

70. The system of claim 52, wherein said selected sporting event is basketball, and wherein said betting events are selected from the group consisting of next score; lead change; quarter scoring; high scorer; high rebounder; next foul; point spread, and over-under.

71. The system of claim 52, wherein said selected sporting event is a race,  
wherein said betting events are win, place, and show, said betting choices for each said betting event being the participants entered in said race;

opening a conventional betting line in said win, place, and show betting events prior to a start of the race and closing said conventional line when said race begins;

opening a series of unconventional betting lines in said win, place, and show betting events one at a time during said race such that only one betting line is open at any given time during said race, and

terminating said conventional and unconventional lines at an end of said race.

72. The system of claim 71, wherein said bonuses for said lines decrease in value as said race progresses, such that players who bet correctly early in said race have an advantage over players who bet correctly later in said race.

73. The system of claim 52, wherein the players pay money to a gambling establishment in exchange for said allocation of tokens.

74. The system of claim 73, wherein said gambling establishment retains a percentage of tokens bet on said betting lines.

5 75. The method of claim 1, wherein at least some of said lines open at random points in time so as to add uncertainty as to when a line will close and thereby provide an incentive to place bets early in a given betting line.

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